

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A trailer for carrying cargo, said trailer comprising:
a frame portion;
at least two axles mounted to said frame portion, each of said axles having at least one wheel at opposite ends of said axle, said wheels and said axles supporting said frame portion above the ground; and
a deck, said deck being pivotally mounted to said frame portion via a first support and a second support, said first and second supports being independently operable to raise and lower respective portions of said deck relative to said frame portion, said deck being pivotable about a first axis relative to said frame portion and a second axis relative to said frame portion via said supports, said first axis extending generally longitudinally along said deck, said second axis extending generally laterally across said deck and generally normal to said first axis, said deck being slidable generally along said first axis relative to one of said frame portion and said second support.
2. The trailer of claim 1, wherein said deck is movable along said first axis and pivotable about said second axis is to engage an end portion of said deck with the ground.
3. The trailer of claim 1, wherein said deck is pivotable about said first axis irrespective of a degree of pivotal movement about said second axis.
4. The trailer of claim 3, wherein said deck is slidable generally along said first axis irrespective of a degree of pivotal movement about said first and second axes.
5. The trailer of claim 1, wherein said first support comprises an extendable and retractable boom, said boom being pivotable relative to said frame portion and to said deck about a pair of laterally extending axes to pivot said deck about said second axis.
6. The trailer of claim 5, wherein said boom is extendable and retractable to longitudinally move said deck along said first axis.

7. The trailer of claim 6, wherein said second support is pivotally mounted to said frame portion and to said deck.
8. The trailer of claim 7, wherein said second support is pivotable about a laterally extending axis at said frame portion to adjust the elevation of a portion of said deck relative to said frame portion.
9. The trailer of claim 8, wherein said second support comprises a pair of supports attached to said deck at opposite sides of a centerline of said deck, said pair of supports being independently extendable and retractable to cause said deck to pivot about said first axis.
10. The trailer of claim 8, wherein said second support is slidably mounted to said deck, said deck being slidable relative to said second support to longitudinally adjust said deck relative to said frame portion.
11. The trailer of claim 10, wherein said deck is slidable relative to said second support when said boom is extended or retracted.
12. The trailer of claim 10, wherein said second support is pivotable about said laterally extending axis at said frame portion in response to at least one actuator, said at least one actuator pivoting said second support about said laterally extending axis to vertically adjust said portion of said deck relative to said frame portion.
13. The trailer of claim 1, wherein said at least two axles comprise front and rear steerable axles that are steerable to steer said trailer as it moves over the ground.
14. The trailer of claim 13, wherein said rear steerable axle is turned in a first direction when said front steerable axle is turned in a second direction, said first direction being generally opposite to said second direction.
15. The trailer of claim 14, wherein said front axle is mechanically connected to said rear axle, such that pivotal movement of said front axle in said second direction causes a corresponding pivotal movement of said rear axle in said first direction.

16. The trailer of claim 15, wherein said front axle is mechanically connected to said rear axle via an elongated member extending between said front and rear axles.

17. The trailer of claim 13, wherein said at least two axles further comprises at least one center axle, said at least one center axle being vertically adjustable relative to said frame portion between a lowered position, where said wheels of said at least one center axle assist in supporting said frame portion above the ground, and a raised position, where said wheels of said at least one center axle are above the ground and said frame portion is supported by said wheels of said front and rear axles.

18. The trailer of claim 17, wherein said front and rear axles are vertically adjustable between a lowered position, where said wheels of said front and rear axles assist in supporting said frame portion above the ground, and a raised position, where said wheels of said front and rear axles are above the ground and said frame portion is supported by said wheels of said at least one center axle.

19. The trailer of claim 13 including a trailer hitch portion that is pivotable to steer said front axle, said hitch portion being pivotally attached to a front end of said frame portion and being pivotable about a first generally vertical pivot axis.

20. The trailer of claim 19, wherein said front axle is incorporated into a front axle assembly that is pivotable about a second generally vertical pivot axis to steer said trailer.

21. The trailer of claim 20, wherein said hitch portion extends forwardly from said first pivot axis and is movably connected to a forward portion of said front axle assembly.

22. The trailer of claim 21, wherein said first generally vertical pivot axis is positioned forwardly of said second generally vertical pivot axis.

23. The trailer of claim 1, wherein said deck comprises a conveyor operable to convey an article onto and off from said deck.

24. The trailer of claim 1, wherein said deck includes an adjustable platform portion at an end of said deck, said adjustable platform being pivotable about lateral axis extending laterally across said deck.

25. A trailer for carrying cargo, said trailer comprising:

a frame portion;

at least two axles mounted to said frame portion, each of said axles having at least one wheel at opposite ends of said axle, said wheels and said axles supporting said frame portion above the ground; and

a deck, said deck being pivotally mounted to said frame portion by a boom member and at least one rear support, said boom member being pivotally connected at said frame portion and at a forward portion of said deck, said at least one rear support being mounted at a rear portion of said frame portion and a rearward portion of said deck, said boom member being pivotable about a lateral axis extending generally laterally across said frame portion to vertically adjust said forward portion of said deck relative to said frame portion, said boom member pivots about said laterally extending axis via a first actuator attached to said frame portion and said boom member, said boom member being extendable and retractable to longitudinally adjust a position of said deck relative to said frame portion, said boom member being extendable and retractable via a second actuator positioned along at least a portion of said boom member.

26. The trailer of claim 25, wherein said deck is pivotable relative to at least one of said boom member and said frame portion about a longitudinal pivot axis extending generally longitudinally along said deck, said longitudinal axis being generally normal to said lateral axis.

27. The trailer of claim 26, wherein said forward portion of said deck is pivotally attached to an end of said boom member via a multi-axis connection that facilitates pivotal movement of said forward portion of said deck about at least two axes.

28. The trailer of claim 27, wherein said boom member comprises a telescopic boom member having a first member pivotally attached to said frame portion and a second member pivotally attached to said deck, said second member being extendable relative to said first

member by said second actuator to longitudinally adjust said deck relative to said frame portion.

29. The trailer of claim 28, wherein said deck is longitudinally movable and pivotable about said laterally extending axis to move an end of said deck toward and into contact with the ground.

30. The trailer of claim 25, wherein said deck is slidably mounted to said at least one rear support and is slidable generally along said first axis relative to said frame portion.

31. The trailer of claim 25, wherein said at least one rear support is pivotally mounted at a rear portion of said frame portion and pivotable relative to said frame portion about a second laterally extending axis to adjust said rear portion of said deck relative to said frame portion.

32. The trailer of claim 31, wherein said at least one rear support is pivotally mounted to a mounting bracket fixedly attached at said boom member, said mounting bracket and said at least one rear support being pivotable about said laterally extending axis as said boom member is pivoted about said laterally extending axis.

33. The trailer of claim 31, wherein said at least one support is extendable and retractable to vertically adjust said rear portion of said deck relative to said frame portion.

34. The trailer of claim 33, wherein said at least one rear support comprises a pair of supports positioned towards opposite sides of said frame portion and said deck, said pair of supports being independently extendable and retractable to cause said deck to pivot about a longitudinal axis extending generally longitudinally along said deck.

35. A trailer for carrying cargo, said trailer comprising:

- a frame portion;

- at least two axles mounted to said frame portion, each of said axles having at least one wheel at opposite ends of said axle, said wheels and said axles supporting said frame portion above the ground; and

- a deck, said deck being pivotally mounted to said frame portion and being pivotable about a longitudinal axis relative to said frame portion and a lateral axis relative to said frame

portion, said longitudinal axis extending generally longitudinally along said deck, said lateral axis extending generally laterally across said deck and generally normal to said longitudinal axis, a rearward portion of said deck being attached to a pair of rearward supports, said rearward supports being pivotally mounted at a rearward portion of said frame portion at respective and opposite sides of a centerline of said frame portion, said rearward supports being pivotable relative to said frame portion about a laterally extending axis at said frame portion, said rearward supports pivoting about said lateral extending axis to vertically adjust said rearward portion of said deck relative to said frame portion, said rearward supports being independently extendable and retractable to pivot said deck about said longitudinal axis.

36. The trailer of claim 35, wherein said deck is slidably attached to said rearward supports.

37. The trailer of claim 36, wherein said rearward supports slide along said deck as said rearward supports are pivoted about said laterally extending axis at said frame portion.

38. The trailer of claim 35, wherein a forward portion of said deck is attached to an extendable and retractable boom member that extends and retracts to move said deck relative to said rearward supports.

39. The trailer of claim 38, wherein said boom member is pivotally mounted to said frame portion; said boom member pivoting about a second laterally extending axis at said frame portion to vertically adjust said forward portion of said deck relative to said frame portion.

40. The trailer of claim 39, wherein said rearward supports are attached to said boom member and pivotable about said second laterally extending axis with said boom member.

41. The trailer of claim 40, wherein said rearward supports are pivotable about said laterally extending axis and said second laterally extending axis to move said deck rearward and to lower said rearward portion of said deck toward and into contact with the ground.

42. The trailer of claim 35, wherein each of said pair of rearward supports comprises a telescopic support having a first member that is extendable and retractable relative to a

second member, said first members being extendable and retractable via a pair of first actuators positioned at least partially along said rearward supports.

43. The trailer of claim 42, wherein said pair of rearward supports are pivoted about said laterally extending axis via second actuators.

44. The trailer of claim 35, wherein said rearward supports are pivotable about said laterally extending axis at said frame to move said rearward portion of said deck rearward relative to said frame portion and to lower said rearward portion of said deck downward toward the ground rearward of said frame portion.

45. The trailer of claim 35, wherein said rearward supports are pivotable in unison with one another.

46. A trailer for carrying cargo, said trailer comprising:
• a frame portion and a deck attached to said frame portion;
front and rear axles mounted to said frame portion, each of said axles having at least one wheel at opposite ends of said axle, said wheels and said axles supporting said frame portion above the ground, said front axle comprising a steerable axle and being mounted to an axle base that is pivotally attached to said frame and pivotable about a first generally vertical axis to turn said front axle relative to said frame portion to steer said trailer; and
a hitching member for connecting said trailer to a towing vehicle, said hitching member being pivotally attached to a front portion of said frame portion and pivotable about a second generally vertical axis spaced from and forward of said first axis, said hitching member being movably attached to said axle base forward of said second axis such that pivotal movement of said hitching member about said second axis causes pivotal movement of said axle base about said first axis.

47. The trailer of claim 46, wherein said hitching member is movably attached to said axle base via a mounting member of said hitching member extending through a slot in said axle base, said mounting member urging said axle base to pivot and moving along said slot when said hitching member pivots about said second axis.

48. The trailer of claim 46, wherein said hitching member is pivotable about said second axis via at least one actuator.
49. The trailer of claim 46, wherein said hitching member includes a vertically adjustable portion that is vertically adjustable to adjust a hitching end of said vertically adjustable portion relative to said frame portion.
50. The trailer of claim 49, wherein said vertically adjustable portion is vertically adjustable via an actuator.
51. The trailer of claim 46, wherein said rear axle comprises a steerable rear axle that is pivotable about a third generally vertical axis.
52. The trailer of claim 51, wherein said rear axle pivots in a second direction in response to said front axle pivoting in a first direction, said second direction being generally opposite to said first direction.
53. The trailer of claim 52, wherein said rear axle is interconnected with said front axle via at least one connecting member, said at least one connecting member urging said rear axle to pivot in said second direction when said front axle pivots in said first direction.
54. The trailer of claim 46 including at least one center axle positioned between said front and rear axles and having at least one wheel at opposite ends thereof.
55. The trailer of claim 54, wherein said front, rear and center axles are vertically adjustable relative to said frame portion.
56. The trailer of claim 54, wherein said at least one center axle is raisable relative to said frame portion and said front and rear axles so that said frame portion is supported by said wheels of said front and rear axles.
57. The trailer of claim 54, wherein said front and rear axles are raisable relative to said frame portion and said at least one center axle so that said frame portion is supported by said wheels of said at least one center axle.